

Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80



Product: 3024569 - WfxPVC Branch 45° 125 GY/GD SN8 S/S/S

Unit: 1 piece

Manufacturer: Wavin - NL - Hardenberg - Verified

Address: J.C. Kellerlaan 3
7772 SG Hardenberg
Netherlands

LCA standard: NMD Bepalingsmethode 1.1 (2022)

Standard database: Worldwide - Ecoinvent v 3.6 Cut-Off

Externally verified: Yes

Issue date: 08-06-2023

End of validity: 08-06-2028

Verifier: Martijn van Hövell - SGS Search



Wavin carries a complete PVC range of outdoor sewers. With PVC as a material, a smooth-walled, flexible and completely watertight piping system is obtained. Moreover, PVC is absolutely resistant to all substances that occur in domestic waste water. By working with a light material, large pipe lengths and plug connections, a very fast installation is guaranteed.

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard.

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - NL - Hardenberg - Verified (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑
Product stage					Use stage							End-of-Life stage				
A1 Raw material supply A2 Transport A3 Manufacturing					B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment B6 Operational energy use B7 Operational water use							C1 De-construction demolition C2 Transport C3 Waste processing C4 Disposal				
Construction process stage					Benefits and loads beyond the system boundaries											
A4 Transport gate to site A5 Assembly / Construction installation process					D Reuse- Recovery- Recycling- potential											

Environmental impacts and parameters

ECI = Environmental Costs Indicator [euro]; **ADPE** = Abiotic depletion potential for non-fossil resources [kg Sb-eq]; **ADPF** = Abiotic depletion potential for fossil resources [kg Sb-eq]; **GWP** = Global warming potential [kg CO₂-eq]; **ODP** = Depletion potential of the stratospheric ozone layer [kg CFC-11-eq]; **POCP** = Formation potential of tropospheric ozone photochemical oxidants [kg ethene-eq]; **AP** = Acidification potential of land and water [kg SO₂-eq]; **EP** = Eutrophication potential [kg P₀₄ 3--eq]; **HTP** = Human toxicity potential [kg 1,4-DB-eq]; **FAETP** = Freshwater aquatic ecotoxicity potential [kg 1,4-DB-eq]; **MAETP** = Marine aquatic ecotoxicity potential [kg 1,4-DB-eq]; **TETP** = Terrestrial ecotoxicity potential [kg 1,4-DB-eq]; **GWP-total** = EF EN15804+A2 Climate Change [kg CO₂ eq]; **GWP-f** = EF Climate change - Fossil [kg CO₂ eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO₂ eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO₂ eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m³ depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUh]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m³]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

This document and supporting material contain confidential and proprietary business information of Wavin - NL - Hardenberg - Verified. These materials may be printed or (photo) copied or otherwise used only with the written consent of Wavin - NL - Hardenberg - Verified.

Results

Environmental impact SBK set 1	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
ECI	euro	0.23	0	0.01	0.25	0	0.08	0	-0.12	0.21
ADPE	kg Sb-eq	1.93E-3	7.65E-7	3.30E-6	1.93E-3	7.03E-7	5.99E-6	7.83E-9	-2.31E-5	1.92E-3
ADPF	kg Sb-eq	2.63E-2	2.20E-4	5.68E-4	2.71E-2	1.98E-4	2.09E-3	1.09E-5	-1.41E-2	1.52E-2
GWP	kg CO2-eq	2.09E+0	2.99E-2	1.08E-1	2.23E+0	2.69E-2	7.60E-1	7.79E-3	-1.18E+0	1.85E+0
ODP	kg CFC-11-eq	1.07E-6	5.31E-9	8.52E-9	1.08E-6	5.00E-9	8.32E-8	2.59E-10	-5.54E-7	6.15E-7
POCP	kg ethene-eq	1.32E-3	1.81E-5	4.68E-5	1.39E-3	1.62E-5	1.67E-4	1.98E-6	-6.22E-4	9.49E-4
AP	kg SO2-eq	8.35E-3	1.32E-4	4.63E-4	8.95E-3	1.16E-4	1.20E-3	5.84E-6	-3.89E-3	6.39E-3
EP	kg PO4 3--eq	1.04E-3	2.59E-5	5.95E-5	1.13E-3	2.32E-5	1.84E-4	2.52E-6	-5.06E-4	8.32E-4
HTP	kg 1,4-DB-eq	7.90E-1	1.26E-2	5.00E-2	8.52E-1	1.15E-2	3.24E-1	6.33E-4	-3.61E-1	8.27E-1
FAETP	kg 1,4-DB-eq	2.30E-2	3.68E-4	1.71E-3	2.50E-2	3.38E-4	5.02E-3	2.47E-4	-9.70E-3	2.10E-2
MAETP	kg 1,4-DB-eq	5.58E+1	1.32E+0	6.73E+0	6.39E+1	1.21E+0	1.66E+1	2.85E-1	-2.33E+1	5.87E+1
TETP	kg 1,4-DB-eq	5.56E-3	4.45E-5	3.72E-3	9.32E-3	4.08E-5	1.15E-3	2.02E-6	-3.21E-3	7.30E-3
Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	2.17E+0	3.02E-2	1.23E-1	2.32E+0	2.72E-2	8.00E-1	9.09E-3	-1.13E+0	2.02E+0
GWP-f	kg CO2 eq	2.15E+0	3.02E-2	9.47E-2	2.27E+0	2.72E-2	7.65E-1	9.09E-3	-1.20E+0	1.87E+0
GWP-b	kg CO2 eq	1.75E-2	1.39E-5	1.95E-2	3.71E-2	1.65E-5	3.44E-2	1.10E-5	7.27E-2	1.44E-1
GWP-luluc	kg CO2 eq	2.19E-3	1.11E-5	8.99E-3	1.12E-2	9.61E-6	3.20E-4	2.26E-7	-1.27E-3	1.02E-2
ODP	kg CFC11 eq	1.06E-6	6.66E-9	1.00E-8	1.07E-6	6.26E-9	8.59E-8	3.22E-10	-5.48E-7	6.18E-7
AP	mol H+ eq	1.01E-2	1.75E-4	5.78E-4	1.09E-2	1.55E-4	1.51E-3	7.82E-6	-4.70E-3	7.87E-3
EP-fw	kg P eq	9.73E-5	3.05E-7	1.66E-6	9.93E-5	2.24E-7	1.06E-5	1.02E-8	-4.75E-5	6.26E-5
EP-m	kg N eq	1.78E-3	6.17E-5	1.36E-4	1.97E-3	5.54E-5	3.74E-4	5.32E-6	-8.35E-4	1.57E-3
EP-T	mol N eq	1.93E-2	6.80E-4	1.50E-3	2.15E-2	6.10E-4	4.11E-3	3.12E-5	-8.97E-3	1.72E-2
POCP	kg NMVOC eq	6.52E-3	1.94E-4	4.28E-4	7.14E-3	1.74E-4	1.24E-3	1.09E-5	-3.08E-3	5.49E-3
ADP-mm	kg Sb eq	1.93E-3	7.65E-7	3.30E-6	1.93E-3	7.03E-7	5.99E-6	7.83E-9	-2.31E-5	1.92E-3
ADP-f	MJ	5.60E+1	4.55E-1	1.06E+0	5.75E+1	4.17E-1	4.14E+0	2.35E-2	-2.97E+1	3.24E+1
WDP	m3 depriv.	3.30E+0	1.63E-3	8.20E-1	4.12E+0	1.28E-3	1.58E-1	1.47E-4	-1.71E+0	2.56E+0
PM	disease inc.	7.22E-8	2.71E-9	7.13E-9	8.21E-8	2.45E-9	1.91E-8	1.62E-10	-3.55E-8	6.83E-8
IR	kBq U-235 eq	1.22E-1	1.91E-3	1.68E-3	1.26E-1	1.82E-3	1.45E-2	1.08E-4	-5.62E-2	8.58E-2
ETP-fw	CTUe	5.93E+1	4.06E-1	2.46E+0	6.22E+1	3.39E-1	3.02E+1	3.33E-1	-2.13E+1	7.17E+1
HTP-c	CTUh	1.66E-9	1.32E-11	8.51E-11	1.75E-9	1.20E-11	4.64E-10	6.42E-13	-6.29E-10	1.60E-9
HTP-nc	CTUh	5.40E-8	4.44E-10	2.66E-9	5.71E-8	4.04E-10	1.08E-8	6.50E-11	-2.17E-8	4.67E-8
SQP	Pt	1.02E+1	3.95E-1	7.92E-2	1.07E+1	3.57E-1	2.58E+0	6.02E-2	-1.73E+1	-3.55E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.25E+0	5.70E-3	5.15E+0	8.40E+0	5.98E-3	2.93E-1	8.90E-4	-3.78E+0	4.93E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.25E+0	5.70E-3	5.15E+0	8.40E+0	5.98E-3	2.93E-1	8.90E-4	-3.78E+0	4.93E+0
PENRE	MJ	6.00E+1	4.83E-1	1.14E+0	6.16E+1	4.43E-1	4.40E+0	2.49E-2	-3.20E+1	3.45E+1
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	6.00E+1	4.83E-1	1.14E+0	6.16E+1	4.43E-1	4.40E+0	2.49E-2	-3.20E+1	3.45E+1
PET	MJ	6.32E+1	4.89E-1	6.29E+0	7.00E+1	4.49E-1	4.70E+0	2.58E-2	-3.57E+1	3.95E+1
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	3.85E-2	5.55E-5	1.94E-2	5.80E-2	4.72E-5	4.37E-3	2.88E-5	-1.99E-2	4.25E-2
Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	2.72E-4	1.15E-6	1.12E-6	2.75E-4	1.07E-6	6.76E-6	2.86E-8	-2.32E-5	2.59E-4
NHWD	kg	2.09E-1	2.89E-2	1.74E-3	2.40E-1	2.58E-2	1.54E-1	1.03E-1	-9.09E-2	4.31E-1
RWD	kg	1.11E-4	2.99E-6	2.08E-6	1.16E-4	2.84E-6	1.57E-5	1.53E-7	-4.99E-5	8.49E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0



Ecochain Technologies BV
H.J.E. Wenckebachweg 123, 1096 AM Amsterdam, The Netherlands
<https://www.ecochain.com>
+31 20 3035 777